

## **ABSTRACT**

### **Background :**

Acute symptomatic seizures are those caused or provoked by an acute medical or neurological insult ,that shows an clearly identifiable causal association ,generally not tend not to recur, and usually long term antiepileptic treatment is not needed. The etiological spectrum varies in developing countries in which CNS infections,metabolic disorders and cerebrovascular disorders predominate.CNS infections are common in children and young adults.Cerebrovascular diseases like stroke are common in elderly.

### **Aims and Objectives:**

The study titled **“Demographic,clinical,investigational and etiological profile of patients with acute symptomatic seizures”** was conducted in Chengalpattu Medical College ,in 200 patients admitted in medical wards and IMCU, in patients over 12 years of age with acute symptomatic seizures and analyze the incidence of potentially treatable causes of seizures,study the pattern of seizures and study the usefulness of various investigations for the diagnosis of acute symptomatic seizures.

## **Materials and Methods:**

The cross sectional study was done in 200 patients with acute symptomatic seizures meeting the inclusion and exclusion criteria ,using a proforma which includes the detailed history about the seizures, clinical examination to rule out focal neurological deficit and investigations like complete haemogram,blood sugar, urea and creatinine, serum bilirubin and liver enzymes, serum electrolytes, ECG, chest X-ray, EEG, CT /MRI brain, carotid Doppler, CSF analysis and serum autoantibodies for special situations. Blood pressure was noted in all the patients.

## **Results and analysis:**

The most common age group affected were 20-40 years and the range is 12-85 years,males about 53% and females about 47% .61 % had GTCS,34 % had focal,5% had EPC. Fever, headache, vomiting were the most common associated symptoms accounting each 37.5% in 200 patients. The past history included majority with diabetes, hypertension, tuberculosis and CKD.65% were drowsy , and 20% with stupor/coma. Focal deficits in about 33%,abnormal CT in 90% patients which included stroke, CVT, tumor, calcified granuloma and AVMs. EEG abnormality included diffuse slowing in 60% and focal & sharp spikes in18 % and bilateral spikes in 12 %.ECG

abnormality in 18 patients, which included LVH and CAD features. Chest X-ray abnormality in 18 patients. LFT abnormality noted in 28 patients. 12 patients had hyperglycemia, 4 had hypoglycemia.

The underlying cause found in majority of patients were metabolic 38%, CNS infections 28%, stroke 12%, CVT 5% and calcified granuloma 9%. In adults aged 20 –30 years, infection was most common. In 30-40 years, most common cause was metabolic and toxic causes. Patients over 65 years, metabolic and cerebrovascular disorders were common. Among metabolic and toxic causes, alcohol intoxication/withdrawal accounts 31.5%, CKD and electrolyte abnormalities about 13% and hepatic encephalopathy and other toxins/drugs about 8.5%. Among CNS infections, 75.5% were tubercular/bacterial meningitis and neurocysticercosis about 7% and brain abscess 3.5%.

### **Summary and Conclusion :**

The majority of cases seen in young adults were due to metabolic causes ,of alcohol withdrawal/intoxication was most commonly seen ,followed by CNS infections. The most common CNS infections were meningitis, tuberculoma and neurocysticercosis. Cerebrovascular disorders were commonly found in the elderly. The most common age group affected is 20 -40 years. The most useful investigation in emergency is non contrast

CT brain. MRI brain is useful for identifying pathology especially in focal seizures.

The increasing trend of alcohol related seizures carries a special mention since most of alcohol withdrawal seizures do not require long term AED prophylaxis. Further studies are needed to confirm these findings in the near future.

**Abbreviations:**

AED-antiepileptic drugs

CKD-chronic kidney disease

CNS- central nervous system

EEG-electroencephalography

ECG-electrocardiography

CVT- cortical venous thrombosis

GTCS-Generalised tonic clonic seizures

EPC- EpilepsiaPartialis Continua

CT- Computed tomography

MRI-Magnetic resonance imaging

AVM- Arteriovenous Malformation

LVH- Left Ventricular Hypertrophy

CAD- Coronary Artery Disease